

Drawings

The attached sheets of drawings include new Figures 7 and 8 to address the Examiner's objection to the drawings.

REMARKS

The Applicants respectfully request reconsideration of this application in view of the above amendments and the following remarks.

Claim Objections

The Examiner has objected to claims 57, 69 and 78 under 37 C.F.R. 1.75(c).

Applicants respectfully submit that claims 57, 69 and 78 have been amended to overcome the objection.

Claim Rejections – 35 U.S.C. § 112

The Examiner has rejected claims 55-67, 69-76 and 78-80 under 35 U.S.C. 112, first paragraph.

Applicants respectfully submit that claims 55, 67 and 76 have been amended to overcome the rejection.

35 U.S.C. §102(e) Rejection - Henley

The Examiner has rejected claims 55-63, 65, 67-72, 74, 76 and 76-80 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,207,005 issued to Henley et al. (hereinafter referred to as “Henley”). The Applicants respectfully submit that the present claims are allowable over Henley.

Claim 55 recites a wafer processing apparatus comprising:

“a plurality of metal deposition chambers, the metal deposition chambers to deposit metal layers on wafers;

an annealing chamber, the annealing chamber integrated with the wafer processing apparatus, the annealing chamber to anneal the metal layers to stabilize hardness of the metal layers prior to chemical mechanical polishing;

a robot means for moving the wafers having the metal layers deposited thereon from the metal deposition chambers directly to the annealing chamber shortly after the metal layers have been deposited on the wafers,

wherein the wafer processing apparatus does not have a polishing chamber”.

Henley does not teach or suggest these limitations. In particular, Henley does not teach or suggest either:

(1) a robot means for moving the wafers having the metal layers deposited thereon from the metal deposition chambers directly to the annealing chamber shortly after the metal layers have been deposited on the wafers; or

(2) wherein the wafer processing apparatus does **not** have a polishing chamber.

Firstly, there is no teaching or suggestion in Henley that the robot performs the claimed functions. On this point, the Examiner appears to be ignoring the function performed by the robot on the grounds that the claim is an apparatus. Applicants respectfully submit that it is simply inappropriate to ignore the functional limitations in an apparatus claim. It is allowed in the U.S. to define an apparatus both in terms of its structure and in terms of its **function**. In the present claim the robot is set forth in **means plus function** format as a robot means for performing the function. Accordingly, Applicants respectfully request that the Examiner consider the function. Otherwise, if the Examiner intends to ignore the function performed by the robot means then Applicants request that the Examiner provide support in the law for ignoring functional limitations in apparatus claims.

Secondly, Henley does not disclose wherein the wafer processing apparatus does not have a polishing chamber. Rather, the apparatus discussed in Henley has a chemical mechanical polishing chamber 305.

For at least these reasons, claim 55 and its dependent claims are believed to be allowable over Henley.

Independent claims 67 and 76, and their respective dependent claims, are believed to be allowable over Henley for analogous reasons that Henley does not teach or suggest the limitations of these independent claims and in particular the function performed by the robot means.

35 U.S.C. §103(a) Rejection - Henley

The Examiner has rejected claims 64, 66, 73 and 75 under 35 U.S.C. §103(a) as being unpatentable over Henley.

These claims depend from one of the independent claims, which as discussed above are believed to be allowable over Henley. Accordingly, Applicants elect at this time not to address the rejection of these dependent claims.

Conclusion

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance. Applicants respectfully request that the rejections be withdrawn and the claims be allowed at the earliest possible date.

Request For Telephone Interview

The Examiner is invited to call Brent E. Vecchia at (303) 740-1980 if there remains any issue with allowance of the case.

Request For An Extension Of Time

The Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17 for such an extension.

Charge Our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

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